

AMENDMENTS TO CLAIMS

1. (Currently Amended) A surveying instrument comprising:

- a sighting telescope optical system through which a sighting object can be sighted;
- a distance measuring system which measures a distance to said sighting object;
- a phase detection autofocus system which detects a focus state of an image of said sighting object on a reference focal plane;
- an AF driver which moves a focusing lens of said sighting telescope optical system to bring said sighting object into focus in accordance with an output of said phase detection autofocus system;
- a selector for setting a consecutive distance measurement mode in which said distance measuring system performs plural measurements of distances to said sighting object; and
- a controller which coordinates focusing operations of said AF driver with distance measuring operations of said distance measuring system in the consecutive distance measurement mode, such that said AF driver operates concurrently with distance measuring operations of said distance measuring system.

2. (Original) The surveying instrument according to claim 1, wherein said AF driver moves said focusing lens to bring said sighting object into focus in accordance with an output of said phase detection autofocus system without the use of a reflective device at a point of said sighting object.

3. (Previously Presented) The surveying instrument according to claim 1, wherein said selector comprises a start button, and the coordinated focusing operations of said AF driver and distance measuring operations of said distance measuring system in the consecutive distance measurement mode are initiated by a single-push operation of said start button.

4. (Previously Presented) The surveying instrument according to claim 1, wherein said selector sets a consecutive autofocus mode in which said AF driver repeatedly brings said sighting object into focus, and

wherein said consecutive autofocus mode starts at the same time as said consecutive distance measurement mode.

5. (Previously Presented ) The surveying instrument according to claim 1, wherein said controller drives said AF driver to move said focusing lens to a predetermined position so that an object at a predetermined distance is in focus when said sighting object is unable to be brought into focus in a measurement mode in which a target is set at an arbitrary point.

6. (Original) The surveying instrument according to claim 1, wherein said surveying instrument is a total station.

7. (Original) The surveying instrument according to claim 1, wherein said distance measuring system comprises a distance meter having a light-emitting element

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and a light-receiving element.

8. (Original) The surveying instrument according to claim 1, wherein said phase detection autofocus system comprises a pair of line sensors.